

Comments in Docket 99-325 - HD Radio (IBOC/DAB) power increase proceeding.

1. HD Radio reception problems.

As a consumer, I've not purchased an HD Radio unit yet, because of the problems I have receiving IBOC encoded signals from the transmitters in my area, the Salt Lake DMA.

However, I've followed this from the beginning, and have also done some casual research on the subject, and most of what is said here comes from that observatory research that I've conducted in the Salt Lake DMA, mainly in Salt Lake and Utah Counties in Utah, and the problems I will note is most severe in Utah County but some areas of Salt Lake County have issues as well.

Most HD transmitters are located on Farnsworth Peak in Salt Lake County, there are none on the Humphreys Peak 'rimshot' site presently, due to the cost of installing the equipment on the boosters and the fact that iBiquity does not seem to offer package deals to stations that own their networks of translators or boosters that feed off one station, and that would still have to vary depending on how many the station or group owned. This has made the costs prohibitive to the broadcaster, causing many to not adopt HD broadcasting outside the immediate market area, or maybe not at all within it where there are reception problems even not associated with HD radio. There is no provision in the licensing at present to cover auxiliary transmitters either, as some stations that have them lose their HD signals when the main transmitter goes down and they have to fall back to the auxiliary, I've noticed.

The observations are as follows: I visited a Wal-Mart at 6200 South and 5600 West in Salt Lake County, apparently the closest one to the transmitter site that I could get to, and reception of available HD signals was as it should be. The units they had (one car head unit, no table units) locked onto the digital signals immediately just like any analog signal. The display faced north and was near the east wall, and the transmitters are just a little north of west from the store.

Another Wal-Mart at 56th West and 32nd South had problems picking up some station signals. This was due to the head unit facing north near the north wall, and the transmitter being southwest of the store.

One Wal-Mart that is very good is one at 14th South and Third West in Salt Lake City. Gets everything with about a five second lag time, unit faces north and the display is in the northeast corner of the store, and the transmitter is southwest of that location.

A Best Buy at 21st South and the TRAX light rail line with two head units and two display models did very well also. The head units were on the east wall facing west and the table models were in the

middle of the store facing east. They only have the head units now, after reconfiguring the store, they lost the reception on the tabletop units as they now faced north and were near the car stereo displays on the east side of the store.

A Best Buy near the new hospital, at 52nd South and State, also had good reception on head units, they had them facing south on the north wall. Two table model units now removed were in the middle of the store facing north and got good reception as well.

A Wal-Mart only a few miles east of this location, at 47th South and 9th East, had car stereos in the southeast corner of the store facing north. Reception was spotty to nonexistent.

A Best Buy in American Fork Utah in the 'Meadows' development only had one unit ever work, it was facing north and the transmitter was northwest. Presently there is one facing west that picks it up, but here too they have cut back on the available models. Nothing ever came in on the tabletop models which have also since been removed.

Got some very spotty reception on a table model one at the Best Buy on University Parkway in Orem. Mostly sounded like a sputtering airplane, only getting parts of the signal. For a time it was very good, faced west in the middle of the store, transmitter was to the northwest. They moved it where the radio faced southeast and that's when the signal problems began. The model is no longer displayed at the store. No reception whatsoever on the two car head units on the north wall, northeast corner, facing south.

No reception in Wal-Mart at the Meadows, the one in Pleasant Grove on State Road, or the one on Sandhill Road in Orem.

2. -10dB power matters.

Right now station power levels are limited to one percent of their analog outputs. So, if a station was broadcasting in analog at 100kw, it would only be able to broadcast at 1kw.

But since FM is similar to digital TV, and it was found that to replicate a station's coverage area for the most part exactly, one had to have facilities equalling 10 percent of the analog's visual power. A 5000kw UHF signal generally was found to need somewhere between 500kw and 700kw of ERP to get the same results in the digital domain.

Therefore, it may be necessary to get ERPs to about 10kw for the aforementioned 100kw station for the digital signal to come close to appropriately replicating the analog's 60db coverage area. Of course other factors may require that final determination to be a little more or a little less, just like

what was found in analog TV to DTV ERP conversions.

It is also possible that there will have to be some changes in calculating the grade B contour so that those listeners can get HD signal with a minimum of effort, given the technology will eventually be in almost all clock radios, handheld portables, or other media players, and also be in many settings such as basement apartments like mine, dormitories, hotels, office buildings, and other structures that can often due to their materials and other considerations, wreak havoc with analog signals anyway.

Terrain considerations are necessary as well, including methods to filling shadow areas and tunnels, and behind hills such as are near me that would shadow a surprising amount of population and that would include population that would otherwise get the analog signals now, and can't get HD2/3 station multicasts. I also found no reception near BYU in buildings there, but in cars it was good as I heard an HD signal in a BYU-owned van.

CCTF's comments indicate taht they fear the loss of translators. It is possible they might lose a few, but I don't think that many as it simply is not as dire as they would state, but I've also heard on web forums for radio buffs that even first-adjacent signals were picked up better using test signals of the -10dB trial outputs in heavily congested radio markets.

We have a transmitter on 89.7 in Salt Lake owned by EMF that I've not seen adverse effect on, even though 89.1 and 90.1 have multicast IBOC signals on them. It's actually second-adjacent to the 90.1 full power station, and I've noticed no difference in its reception on HD and non-HD radios, even at the best locations noted above.

A transltor on 91.3 in Salt Lake not co-located with the others is not experiencing any interference from an IBOC installation on 90.9 either. My suspicion here then is that the interference is all equipment related, and not of that which the individual listener might have. This is common in radio anyway at the transmission level, so the bugs will have to be worked out there.

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Certificate of Service.

I, James Anderson, do certify that I have emailed iBiquity Corporation with a copy of these comments, although they were filed electronically via the FCC's ECFS system, I opted to email them to iBiquity, using an email address found in the WHOIS records for the company. If that bounces, I will attempt to email them via other means or print a copy of these comments and send them by US postal mail to iBiquity Corporation.

/s/ James Anderson

25 June 2009.